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10/730,004

12/09/2003

Petteri Yla-Outinen

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EXAMINER

SMITH, JOSHUA Y

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/730,004

Applicant(s)

YLA-OUTINEN ET AL.

Examiner

Joshua Smith

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/17/2004</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 14, 15, 24, and 40 rejected under 35 U.S.C. 102(b) as being anticipated by Morrow (Document Number: EP 1 089 515 A2), hereafter referred to as Morrow.

As for Claim 1, Morrow teaches in paragraph [0010], lines 3-8, improving the efficiency of call control load sharing mechanism among call control servers of a connectionless packet network (substantively the same as "A method of controlling processing load in a packet data network" in the instant invention).

Morrow also teaches in paragraph [0023], lines 14-28, the Round Robin load sharing routine is implemented, and, in paragraph [0024], lines 37-45, the results of this load sharing routine include a new destination address that is entered into the packet (substantively the same as "setting a load control information in a predetermined field of a message" and in the instant invention).

Morrow also teaches in paragraph [0021], lines 27-30 and 31-34, and in Fig. 3A, page 10, of a session client server or CSCF process sending an INVITE message to

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NAT ROUTER/SWITCH (substantively the same as "routing said message in said packet data network" in the instant invention).

Morrow also teaches in paragraph [0022], lines 46-51, of an incoming packet being detected and with it a destination address C, which is used to find and calculate load sharing values and determine a load sharing routine to be used, and, in paragraph [0023], lines 25-31, to find the final destination address C1, C2, or C3 (substantively the same as "checking said load control information on the routing path of said message" and "selecting a processing resource of said packet data network in response to the result of said checking step" in the instant invention).

As for Claim 14, Morrow as applied to Claim 1 teaches the limitations except information indicating whether a session of said message is already existing. Morrow further shows in lines 41-54, column 8, and in FIG. 7, page 14, that a message is checked by the NAT to determine if the message is the first message of a transaction yet to be established by the NAT or a message of an already established transaction, implicitly teaching that the message contains sufficient information to determine this.

As for Claim 15, Morrow as applied to Claim 1 teaches the limitations except information indicating the identity of a session. Morrow further shows in lines 48-54, column 8, and in FIG. 7, page 14, the NAT can identify the CSCF and the transaction originator if the handshake process has already happened, implicitly teaching that the

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message contains sufficient information after a handshake process to determine the participants of an established connection.

As for Claim 24, the references as applied to Claims 1 and 15 teach the limitations except extracting information in response to detecting information. Morrow further teaches in paragraph [0022], lines 46-48, when an incoming packet is detected with a destination address of C, the NAT looks it up in the route table, implicitly teaching that the NAT can detect the address of C in the incoming packet and extract it for the purposes of comparing it to the route table.

Claim 40 appears to contain limitations in Claim 1, addressed above.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2, 6-8, 10-13, 18-22, 32, 33, 35, and 42 rejected under 35 U.S.C. 103(a) as being unpatentable over Morrow (Document Number: EP 1 089 515 A2) in view of Krause et al. (Patent Number: 5,914,953), hereafter referred to as Morrow and Krause, respectively.

As for Claim 2, Morrow as applied to Claim 1 teaches the limitations except a subfield of a user part of an address header. However, in the same field of endeavor, Krause shows in lines 15-25 and 36-40, column 17, and lines 52-63, column 58, and in FIG. 21A, Sheet 18 of 30, of a message packet header field containing a destination ID that contains four sub-fields, and where each sub-field is a predetermined bit length. It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Krause with the invention of Morrow since Krause provides a router processing system that prevents deadlocks and provides fault tolerance, hardware redundancy, and software recovery techniques, enhancing the robustness of the system of Morrow.

As for Claim 6, Morrow teaches in paragraph [0023], lines 16-22, of multiple load sharing values that are utilized in determining the final destination address: values "C", "j", "m", and "n". Morrow does not teach of a plurality of subfields in user part for conveying different types of information.

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However, in the same field of endeavor, Krause shows in lines 15-25 and 36-40, column 17, and lines 52-63, column 58, and in FIG. 21A, Sheet 18 of 30, of a message packet header field containing a destination ID that contains four sub-fields, and where each sub-field is designed to carry a different type of information. The motivation to combine the invention of Krause with the invention of Morrow is discussed above with respect to Claim 2.

As for Claim 7, the references as applied to Claim 6, teach the limitations except the user part is parsed and divided into said subfields. However, in the same field of endeavor, Krause shows in lines 15-25 and 36-40, column 17, and lines 52-63, column 58, and in FIG. 21A, Sheet 18 of 30, of a message packet header field containing a destination ID that is divided into four sub-fields. The motivation to combine the invention of Krause with the invention of Morrow is discussed above with respect to Claim 2.

As for Claim 8, the references as applied to Claim 6, teach the limitations except the user part is parsed and divided into said subfields. However, in the same field of endeavor, Krause shows in lines 15-25 and 36-40, column 17, and lines 52-63, column 58, and in FIG. 21A, Sheet 18 of 30, of a message packet header field containing a destination ID with four sub-fields, where the first sub-field is a 14-bit Region ID, the second sub-field is a 6-bit Device ID, the third sub-field is three bits reserved for future expansion, and the fourth sub-field is a Path Select (P) bit. The motivation to combine

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the invention of Krause with the invention of Morrow is discussed above with respect to Claim 2.

As for Claim 10, the references as applied to Claim 1 teach the limitations except where a virtual address is shared by a plurality of processor nodes. However, in the same field of endeavor, Krause shows in lines 56-61, column 58, of a Destination ID containing a Device ID, which is indicative of the particular device within a particular region. The motivation to combine the invention of Krause with the invention of Morrow is discussed above with respect to Claim 2.

As for Claim 11, the references as applied to Claims 1 and 10 teach the limitations except call state control functionality of an IP-based cellular network. Morrow further teaches in paragraph [0016], lines 47-52, of a processor containing multiple call session control functions (CSCF), and, in paragraph [0018], lines 31-33, 37-38, and 43-51, of CSCFs operating in a connectionless network protocol involving a cellular system. The motivation to combine the invention of Krause with the invention of Morrow is discussed above with respect to Claim 2.

As for Claim 12, the references as applied to Claim 2 teach the limitations except a port number indicating a port for receiving. Krause further teaches in line 47, column 63, of a 3-bit target port number, and, in lines 8-9, column 64, of input ports. The

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motivation to combine the invention of Krause with the invention of Morrow is discussed above with respect to Claim 2.

As for Claim 13, the references as applied to Claims 2 and 12 teach the limitations except a second port. Krause further teaches in lines 8-9, column 64, of two or more input ports. The motivation to combine the invention of Krause with the invention of Morrow is discussed above with respect to Claim 2.

As for Claim 18, the references as applied to Claim 1 teach the limitations except a part of a host name of a header field. However, in the same field of endeavor, Krause shows in lines 55-61, column 58, of a Destination ID of a packet containing a Device ID, which is indicative of the particular device within a particular region. The motivation to combine the invention of Krause with the invention of Morrow is discussed above with respect to Claim 2.

Claim 19 appears to contain limitations in Claims 1, 6, and 18, addressed above.

Claim 20 appears to contain limitations in Claims 1, 12, and 18, addressed above.

As for Claim 21, the references as applied to Claims 1, 12, and 13 teach the limitations except differentiating between a first message form subsequent messages.

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Morrow further shows in lines 41-54, column 8, and in FIG. 7, page 14, that a message is checked by the NAT to determine if the message is the first message of a transaction yet to be established or a message of an already established transaction, implicitly teaching that the message contains sufficient information to determine this. The motivation to combine the invention of Krause with the invention of Morrow is discussed above with respect to Claim 2.

As for Claim 22, the references as applied to Claim 1 teach the limitations except an extension header field. However, in the same field of endeavor, Krause shows in lines 15-25 and 36-40, column 17, and lines 52-63, column 58, and in FIG. 21A, Sheet 18 of 30, of a message packet header field containing a destination ID with four sub-fields, where the third sub-field is three bits reserved for future expansion (see item RSVD, in FIG. 21A, Sheet 18 of 30). The motivation to combine the invention of Krause with the invention of Morrow is discussed above with respect to Claim 2.

Claim 32 appears to contain limitations in Claims 1 and 2, addressed above.

Claim 33 appears to contain limitations in Claim 11, addressed above.

Claim 35 appears to contain limitations in Claims 1 and 2, addressed above.

Claim 42 appears to contain limitations in Claim 11, addressed above.

Claims 3-5, and 36 rejected under 35 U.S.C. 103(a) as being unpatentable over Morrow in view of Krause, and in further view of Orton et al. (US 6,678,735 B1), hereafter referred to as Orton.

As for Claim 3, the references as applied to Claims 1 and 2 teach the limitations except a via branch of a SIP message. However, in the same field of endeavor, Orton teaches in lines 30-34, column 1, a Via header of a SIP message. It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Orton with the invention of Morrow since Orton provides a method and apparatus that allows efficient operation of SIP by processing application non-essential information, such as routing information, in such a way that an application program is not detracted from its essential task, allowing the system elements of Morrow to connect to SIP without their application programs being overburdened.

As for Claim 4, the references as applied to Claim 1 teach the limitations except copying from one predetermined field to another. Morrow further shows in paragraph [0021], lines 27-37, and in FIG. 3A, page 10, item CSCF 2 receives an INVITE message with C2 as the destination address, and then puts the C2 address in the source address of the TRYING message. The motivation to combine the invention of Orton with the invention of Morrow is discussed above with respect to Claim 3.

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As for Claim 5, the references as applied to Claims 1 and 2 teach the limitations except URI of a SIP Route header. However, in the same field of endeavor, Orton teaches in lines 14-15, column 10, Route headers, and, lines 24-25 and 42-44, column 11, and in FIG. 14, Sheet 8 of 8, of SIP message containing Uniform Resource Identifier (URI). The motivation to combine the invention of Orton with the invention of Morrow is discussed above with respect to Claim 3.

Claim 36 appears to contain limitations in Claim 5, addressed above.

Claim 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Morrow in view of Krause, and in further view of Sanchez Herrero et al. (Patent No.: US 7,177,642 B2), hereafter referred to as Sanchez Herrero.

As for Claim 9, the references as applied to Claim 6, teach the limitations except separation by bit string, character, or character string. However, in the same field of endeavor, Krause shows in lines 15-25 and 36-40, column 17, and lines 52-63, column 58, and in FIG. 21A, Sheet 18 of 30, of a Device ID separated from a path select bit (P) by 3 bits of the 3-bit RSVD field.

In the same field of endeavor, Sanchez Herrero shows in line 51, column 4, a server name with two periods "." separated by a string of characters "wcom", and where "server2" is separated from "wcom" by a single period ".". It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Sanchez Herrero with the invention of Morrow since Sanchez Herrero provides a method and

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system where a user is allowed to register into a system from different terminals simultaneously and can receive calls for any of these terminals through one public-ID associated to a single subscription, allowing the system of Morrow to provide such a service to users.

Claim 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Morrow in view of Krause, Orotan, and Sanchez Herrero.

As for Claim 16, the references as applied to Claims 1, 2, 3 and 5 teach the limitations except Contact header field. However, in the same field of endeavor, Sanchez Herrero teaches in lines 45-46, column 4, of "Contact" headers. The motivation to combine the invention of Sanchez Herrero with the invention of Morrow is discussed above with respect to Claim 9.

Claim 17 rejected under 35 U.S.C. 103(a) as being unpatentable over Morrow in view of Partanen et al. (US 6,888,828 B1), hereafter referred to as Partanen.

As for Claim 17, the references as applied to Claim 14 teach the limitations except hidden information not meaningful to other networks. However, in the same field of endeavor, Partanen teaches in lines 38-40, column 11, of encrypting a Service Via header so that neither the service network configuration nor the user services can be read outside the service network. It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Partanen with the invention of Morrow since Partanen provides a scalable fault tolerant, and flexible architecture to

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implement multimedia services from a service network to a user, allowing the system or Morrow to provide better quality of service.

Claims 23 and 37 rejected under 35 U.S.C. 103(a) as being unpatentable over Morrow in view of Krause, and in further view of Fredericks et al. (Patent Number: 6,115,361), hereafter referred to as Fredericks.

As for Claim 23, the references as applied to Claims 1 and 2 teach the limitations except where information is set in the payload of the message. However, in the same field of endeavor, Fredericks teaches in lines 7-10, column 2, upon receipt of a packet having a recognized service code in the header, a receiving device knows that the payload data is not regular information traffic, and, in lines 2-3, column 6, The first word in the payload specifies the Command Code. It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Fredericks with the invention of Morrow since Fredericks provides a method where network elements can cooperate and communicate for quickly reporting link failures and to facilitate link failure diagnosis and remedial action, allowing the system of Morrow to be more robust in dealing with link failures.

Claim 37 appears to contain limitations in Claims 18, 19, 20, 22, and 23, addressed above.

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Claims 25 and 41 rejected under 35 U.S.C. 103(a) as being unpatentable over Morrow in view of Fredericks.

As for Claim 25, Morrow teaches in paragraph [0010], lines 3-12, improving the efficiency of call control load sharing mechanism among call control servers of a connectionless packet network through the use of network addresses for assigning loads to different call session control functions.

Morrow also teaches in paragraph [0023], lines 14-28, the Round Robin load sharing routine is implemented, and, in paragraph [0024], lines 37-45, the results of this load sharing routine include a new destination address that is entered into the packet.

Morrow also teaches in paragraph [0021], lines 27-30 and 32-37, and in Fig. 3A, page 10, of a session client server or CSCF process sending an INVITE message to NAT ROUTER/SWITCH.

Morrow also teaches in paragraph [0021], lines 27-30 and 32-37, and in Fig. 3A, page 10, the CSCF 2 receives the INVITE message with the load-balanced destination address, changes the load-balanced destination address to a source address and places it into a TRYING message, and sends it through to the session client server or CSCF process, where it is acknowledged by the session client server or CSCF process with an ACK message containing the load-balanced destination address. Morrow does not explicitly teach of storing received information.

However, in the same field of endeavor, Fredericks teaches in lines 66, column 4, to line 3, column 5, of devices that support a certain service maintain a registration list (e.g., a database, stack, or equivalent data structure) containing addresses of other

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devices from which it received requests, and, in lines 19-27, column 5, each device can exchange requests and maintain lists and, in lines. It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Fredericks with the invention of Morrow since Fredericks provides a method for efficiently reporting network link failures among network elements, allowing the network of Morrow to identify network problems and to compensate for and bypass such failures.

Claim 41 appears to contain limitations that are taught by the references as applied to Claim 25, addressed above.

Claims 26 and 29-31 rejected under 35 U.S.C. 103(a) as being unpatentable over Morrow in view of Sanchez Herrero.

As for Claim 26, Morrow teaches in paragraph [0016], lines 47-54, call session control functions (CSCFs). Morrow does not teach of P-SCSF, I-CSCF, and S-CSCF. However, in the same field of endeavor, Sanchez Herrero teaches in lines 13-14, 17-18, and 22, column 7, and in FIG. 5, Sheet 5 of 8, Proxy Call State Control Function (P-CSCF), Interrogating Call State Control Function (I-CSCF), and Serving Call State Control Function (S-CSCF). The motivation to combine the invention of Sanchez Herrero with the invention of Morrow is discussed above with respect to Claim 9.

Claim 29 appears to contain limitations in Claims 1 and 14, addressed above.

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Claim 30 appears to contain limitations in Claim 14, addressed above.

Claim 31 appears to contain limitations in Claim 15, addressed above.

Claims 27, 28, and 34 rejected under 35 U.S.C. 103(a) as being unpatentable over Morrow in view of Sanchez Herrero and Krause.

Claim 27 appears to contain limitations in Claim 11, addressed above.

Claim 28 appears to contain limitations in Claim 1, addressed above.

Claim 34 appears to contain limitations in Claim 26, addressed above.

Claims 38 and 39 rejected under 35 U.S.C. 103(a) as being unpatentable over Morrow in view of Krause, Fredericks, and Sanchez Herrero.

Claim 38 appears to contain limitations in Claim 30, addressed above.

Claim 39 appears to contain limitations in Claim 31, addressed above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Smith whose telephone number is 571-270-

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1826. The examiner can normally be reached on Monday through Friday, 7:30 AM to 5:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Garber can be reached on 571-272-2194. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Joshua Smith

A handwritten signature in black ink, appearing to read "Joshua Smith", is located in the bottom right corner of the page.